



# Colorado Scientific Society

*The objective of the Society is to promote the knowledge and understanding of Earth science, and its application to human needs*

*Newsletter of the Society – April 2018*

***April Meeting, Thursday, Apr. 19, 2018, 7:00 p.m.***  
***Shepherd of the Hills Church, 11500 W. 20<sup>th</sup> Ave., Lakewood***  
***Social time, 6:30; program at 7:00 – all are welcome***



## ***“Geological studies at the USGS in Denver: Where are we now and where are we headed?”***

***Eugene (Buddy) Schweig, Director, Center for Geosciences and Environmental Change, U.S. Geological Survey, Lakewood, CO***

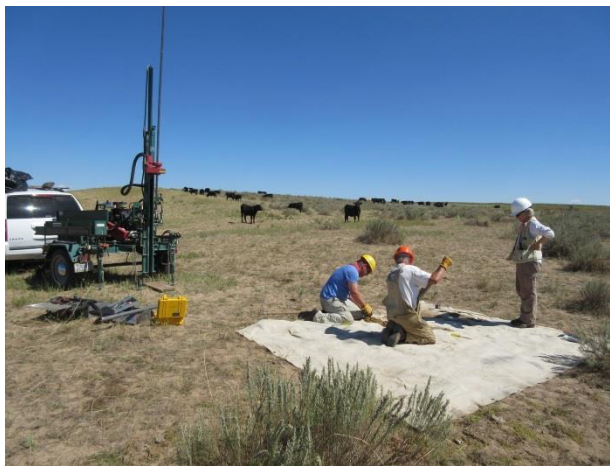
The U.S. Geological Survey is undergoing some profound changes and these are affecting the research that the geology groups are doing at the Denver Federal Center. In spite of this and extreme budget uncertainty, we are looking at exciting new directions in geological mapping and mineral resources that will have implications for our work in Colorado and adjacent states for years to come. I will talk about the range of our projects in Colorado, what is coming to an end, and our plans for the next few years.

## ***“The present and future of the Colorado Geological Survey”***

***Karen Berry, Colorado State Geologist and Director, Colorado Geological Survey***



What has the Colorado Geological Survey been up to since it moved to Mines five years ago? Karen Berry will discuss some of the current and future projects CGS is working on and opportunities for collaboration.

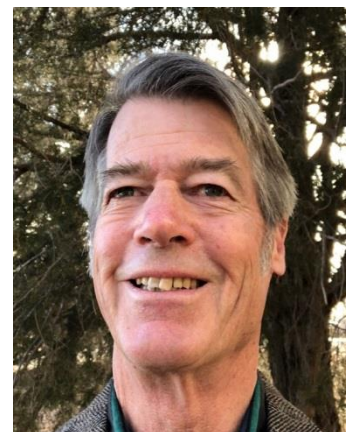


*A montage of photos supplied by our two April speakers. Clockwise from top left: coring at Columbine Lake, near Grand Lake—Joe Rosenbaum, Jeff Honke, Richard Pelltier, Gary Skip, ( USGS); coring sediment near Fort Morgan—Jeff Honke, Gary Skipp, Margaret Berry (USGS); the 2016 West Salt Creek landslide near Collbran, Grand Mesa (CGS); Matt Morgan & Jonathan White with conglomerate boulders (CGS); Cal Ruleman (USGS) measuring attitude of boulders, near Leadville [probably in glacial till!].*

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## ***President's Message, April 2018***

Your Society has a venerable history and we are proud to carry forward an organization that now spans over 135 years. Our history is contained in a set of nomadic file cabinets that have migrated through the years and are now on our historian, Beth Simmons' back porch. Beth has spent many hours reviewing our heritage and digitally scanning selected components to eventually be made available on our web site. Some materials like old cancelled checks are being de-accessioned. We are looking for a more permanent repository for much of the material. The Denver Public Library is willing to accept some materials; others may find a safe haven in libraries like CU Boulder's Norlin Library. Our goal is to steer materials to places where they can be digitally searched for (for example by family historians) and to make the more formal parts (like our Proceedings volumes and Field Trip guidebooks) accessible on the Web --and for this we are placing trust in the cloud---but we also conserving paper copies of the originals---just in case. Check out the extensive materials that Chris Morrison, our Webmaster, has compiled under the 'History of the Society' tab under the "About Us" section of our Home Page.



On the other side of the globe I am involved in similar efforts to curate and preserve data from geological and paleontological research in the Turkana Basin of northwestern Kenya. In this portion of the African Rift Valley Plio/Pleistocene sediments contain the record of the advent of stone tools (going back about 3.3 million years) and the evolution of our species and our companion faunas. This includes a wonderfully complete --and complex--record of co-existing australopithecines and early Homo species.

The geological record is complex with formations 200-300 meters thick spanning a broad range of paleoenvironments from lake, lake-margin, floodplains and rivers. Rapid changes in rates of accumulation and facies patterns challenge the field mappers. The geographic span covering 1000's of square kilometers and the variable exposure quality and difficulty of access further challenge us.

**Bob Raynolds, 2018 President, Colo. Sci. Soc.**

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***Surplus copies of CSS "Proceedings" are now available:*** As we reported in the last newsletter, Beth Simmons and Chris Morrison have been scanning and uploading to our website, complete copies of the past volumes of the Proceedings of the Colorado Scientific Society (the series, volumes 1 through 17, was published from 1883 to 1956). The society has a supply of assorted past issues of the Proceedings. Retaining about two copies of each for reference, we are making the rest available for sale to our members. The Council agreed upon an initial "members price" of \$10 per issue (each volume consisted of several issues, each containing one to several articles; some quite lengthy, some short). As the more popular issues become depleted, we may decide to lower the price in the future for those that remain. Some of these issues were displayed at our last (March) meeting. Beth and Chris have completed making a complete list of all the available copies of the Proceedings; they are listed, by title, author, year, etc., in a file that we're attaching as a separate supplement to this newsletter. These are all available for purchase, first come, first served! If you contact Beth (cloverknoll@comcast.net; phone 303-986-9693) she can bring copies you wish to purchase (or examine) to the April meeting.

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## ***CSS Meetings and Field Trips Planned for the rest of 2018:***

Please make note of the dates; we'll have more info available in our next newsletter and by email:

**Tues., May 8, 7:00 p.m.**, annual Emmons Lecture sponsored by the Colorado Scientific Society, **High drama at the Paleocene/Eocene boundary in the Bighorn Basin; implications for today**, by Will Clyde, University of New Hampshire. On the CSM campus, location TBA.

**Sat.-Sun. Sept. 8-9**, CSS FALL FIELD TRIP, **"Geology of the Upper Arkansas Valley"**; to be held jointly with RMAG, led by Cal Ruleman & Karl Kellogg. Details TBA.

**Thurs., Sept. 20, CSS Student Paper Night.** Planned for the Arbor House, 14600 W. 32<sup>nd</sup> Ave., Golden.

**Thurs., Oct. 18, 7:00 p.m.**, October meeting, **"Structural geology of Colorado"** by Ned Sterne, plus a possible 2<sup>nd</sup> speaker. Shepherd of the Hills Church.

**Thurs. Nov. 15, 7:00 p.m.**, November meeting, **"Geothermal Energy"**, by Jeff Winick, DOE, plus a possible 2<sup>nd</sup> speaker. Shepherd of the Hills Church.

**November \_\_\_\_** (plans still tentative) **CSS Family Night**, perhaps at the CSM Geology Museum.

**December \_\_\_\_** (plans still tentative, perhaps Dec. 20), **CSS Annual Meeting, Potluck Dinner, and President's Address**, tentatively to be held in the Denver Museum of Nature and Science, Gates Planetarium.

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***CSS 2018 Past Presidents' Dinner*** took place April 12 at Mount Vernon Canyon Club, with 50+ members and guests present. Dr. Joe Sertich of DMNS gave an excellent talk on Dinosaurs of Colorado that was of interest to all, and the dinner and the social interaction were all just what we'd hoped. Some 18 of our



past presidents were at the dinner; pictured below are (clockwise) are Mark Hudson (2000), Barney Poole (1990), Scott Lundstrom (2014), Don Sweetkind (2009), Paul Morgan (2015), Matt Sares (2013), Peter Barkmann (2016), Marith Reheis (2017), Lisa Fisher (2011), Tom Casadevall (current president-elect), Bob Reynolds (2017), Pete Modreski (2012), Scott Minor

(2013), Jim Cappa (2003), Karl Kellogg (1997), Matt Morgan (2008), and Bill Nesse (2007). Bob Weimer (our earliest president attending, 1981) was present but left before this picture was taken.

**2018 Denver March for Science** took place on Saturday, April 14. The CSS had our booth here, thanks to about 5 CSS members who set it up, talked to people there, and participated in the march. There was not the huge crowd that was here for the first Denver March for Science in 2017, but there was still a good gathering, and many people visited us at our booth, in the “educational teach-in” area. We had some nice rock and mineral specimens to give away to kids (or others) in exchange for “asking us a good science question”. Thanks to Linda Cronoble (Rustic Relics) for again contributing polished rose quartz; in addition, we had mica, epidote, and molybdenum and gold ore.



and mineral specimens to give away to kids (or others) in exchange for “asking us a good science question”. Thanks to Linda Cronoble (Rustic Relics) for again contributing polished rose quartz; in addition, we had mica, epidote, and molybdenum and gold ore.

Pictured below are Scott Minor, Peter Barkmann, Melissa Foster & Ida, Pete Modreski. In the next photo below, Melissa, Ida, and Van Williams.



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## Spring field trip, “Front Range Pleistocene Geomorphology and Mysterious Gravel Deposits”

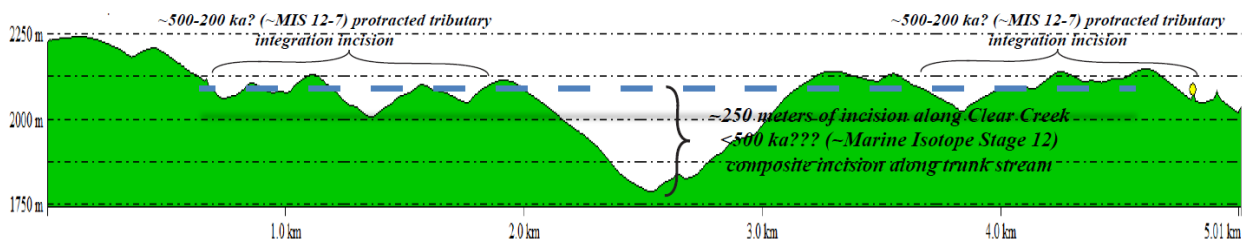
The CSS spring field, led by Cal Ruleman, Ned Sterne, Bob Raynolds, and Beth Simmons, took place on Sunday, April 15, and was well attended by about 22 participants, all of whom (though a bit chilly at times at the higher elevations) had a great time and had much discussion and insight gained about the coarse, bouldery deposits (some glacial moraines, some probably “mixed” glacial + fluvial origin) near the I-70 corridor into the Front Range. In addition to the “designated leaders”, there were many good comments from others on the trip who have also done geologic work on Colorado’s Quaternary deposits.



On the left, at our lunch stop at the George Jackson monument in Idaho Springs—site of the first gold nuggets found (January 7, 1859) in the Front Range. On right, examining Cal’s

glaciation maps at Juniper Pass, east of Echo Lake.

Below, we’ll reproduce a diagram and text from the announcement about the field trip.



*Please join us for an eventful day visiting several sites along the I-70 corridor and up along Highway 103 on the northeast shoulder of the Mount Evans massif. We will begin with an overview of the previous work within the area and relationships that have been previously established, from the Eocene Rocky Mountain erosional surface to Pleistocene incision rates and the timing for onset of major Pleistocene glacial epochs. After our meeting spot overview, our first stop will be at the Genesee Park-I-70 junction with discussions pertaining to geomorphology east and west of the Floyd Hill Divide. We will then venture to the Casino Parkway and the large exposure of the the Central City Gravel. Here we will have time for personal observation of the deposit and geomorphic relationships. We will discuss probable mechanisms for deposition and relationships to distal fan surfaces and chronologic relationships to the east on the Great Plains. We will continue up Chicago Creek at Idaho Springs with stops at Last Glacial Maximum (Pinedale) moraines and till deposits for comparison with the Central City Gravel. Proceeding up Highway 103 to Echo Lake and Juniper Pass we will observe geomorphic similarities between Bear and Clear Creeks with probable coeval glacial-induced landscape incision. We plan to provide an analog and new perspective for future investigations involving Pleistocene geomorphic development of the Rocky Mountain-Great Plains region.*

## ***Colorado State Science & Engineering Fair***

The State Science Fair took place on the CSU campus in Fort Collins on April 5; Chuck Weisenberg judged the earth science exhibits for the Special Awards, for “Excellence in Geology” that we give on behalf of the Colorado Scientific Society. Our awards were:

### ***Junior Division:***

1<sup>st</sup> award, \$75, Julia Warnock, 8<sup>th</sup> grade, Poudre Global Academy, “**Structural Geology of the Fountain Formation in Lory State Park**”

2<sup>nd</sup> award, \$50, Serenity Foutz, 7<sup>th</sup> grade, Bayfield Middle School, “**Plants vs. Water: A Battle of Soil Erosion**”

### ***Senior Division:***

1<sup>st</sup> award, \$100, Rain Orsi, 10<sup>th</sup> grade, Rocky Mountain High School, “**Shaken: A Statistical Analysis on Induced Seismicity**”

2<sup>nd</sup> award, \$75, Casey Shaw, 12<sup>th</sup> grade, Liberty School, “**An Analysis of Compositional Characteristics of Two Distinct Fossil Butte Member Localities**”

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## ***If you’ve not yet done so, please renew your membership in the Colorado***

**Scientific Society** for 2018! Dues are \$25 for regular members, \$10 for corresponding members (outside the Colorado Front Range area) and \$5 for students. A Lifetime Membership is \$395.00. Mail a check to the CSS or pay with a credit card using PayPal on the CSS website, <http://coloscisoc.org/membership-payment/>. Send payments to **Colorado Scientific Society, P.O. Box 150495, Lakewood CO 80215-0495.**

**For more news & information about the Society,** always check our website, [www.coloscisoc.org](http://www.coloscisoc.org), or see our facebook page, <https://www.facebook.com/groups/511533159044226/>.

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## ***Calendar of Coming Events***

**Wed., Apr. 18,** 4:00 p.m., CU Geological Science Colloquium, **Chris Scholz, AAPG Distinguished Lecturer,** Syracuse University, “**Mountains, Monsoons and Migrations: Rift Tectonics, Tropical Climates and the Origin of Humans**”. Benson Earth Sciences Building Auditorium 180. After colloquium, a social hour with snacks, beer, and non-alcoholic drinks will be held in Benson 185. All are welcome. The abstract of this talk is interesting, and short, enough that I’ll repeat it here:

Scientific drill cores from Lake Malawi provide the first continuous and high-resolution 1.2 million-year terrestrial record of past climates in East Africa. The multi-proxy climate signals extracted from these lake sediments reveal remarkable high-frequency and high-amplitude variability in effective moisture over this major southern hemisphere catchment. The level of Lake Malawi dropped more than 400 m at least 25 times over the past 1.2 million years, substantially impacting endemic organisms in the lake, and implying significant landscape variability over this time interval. This presentation provides an overview of the Lake Malawi Scientific Drilling Project, including basin framework seismic images from this enormous ultra-deep rift lake. This work and subsequent East Africa drilling studies are providing the environmental context for the origin of our own species.

**Thurs., Apr. 19,** 4:00 p.m., Van Tuyl lecture at Colorado School of Mines, **Probing Weathered Bedrock in Earth’s Critical Zone: Rock Moisture and its Implications for Weathering and Biogeochemical Processes,** by Daniella Rempe, Jackson School of Geosciences, University of Texas at Austin. Berthoud Hall Room 241; all are welcome.

**Thur., Apr. 19, 7:00 p.m.,** Colorado Scientific Society meeting, a pair of talks on “**Geological studies at the USGS in Denver: Where are we now and where are we headed?**” by Eugene (Buddy) Schweig, Director, USGS Geosciences and Environmental Change Science Center, and “**The present and future of the Colorado Geological Survey**” by Karen Berry, Director and State Geologist, Colorado Geological Survey. Shepherd of the Hills Church, 11500 W. 20<sup>th</sup> Ave., Lakewood (social time at 6:30 p.m., program at 7), all are welcome.

**Sun., Apr. 22, Earth Day Geology Hike,** in Red Rocks Park (1 p.m.) with optional (12 noon) shared potluck lunch at the Discovery Center at Dinosaur Ridge. Meet at the Discovery Center, 17681 W. Alameda Parkway. At about 1 p.m. we’ll drive to the Geologic Marker and hike the new Geologic Overlook Trail—a short, 3000’ (3/5 mile) round trip, 240’ elevation gain. We’ll also demonstrate use of the “ROCKD” geologic map app. This will be a joint “general public” + Florissant Scientific Society event; all interested persons are invited. Contact Pete Modreski, pmodreski@aol.com, or (cell) 720-205-2553.

**Wed., Apr. 25, 4:00 p.m.,** CU Geological Science Colloquium, **Geophysics from the Top-Down: the Exoplanet Opportunity**, by Nick Cowan, McGill Univ. Benson Earth Sciences Building Auditorium 180; social hour with refreshments follows in Benson 185. All are welcome.

**Wed. & Thurs., Apr. 25-26, Robert Hazen,** of the Carnegie Institution of Washington, will give several talks at Colorado School of Mines on the theme of **Mineral Evolution, Mineral Ecology, and “Big Data”**.

Wed., Apr. 25, 7:00 p.m., “**Mineral Evolution and Ecology: Tracing Earth's history through time and space**”. Berthoud Hall, Room 241, Colorado School of Mines, Golden. (Seating is limited; please pre-register at please pre-register at <http://bit.ly/2HO5mIZ> .)

ABSTRACT: A fundamental challenge in geology is to understand the evolving diversity and distribution of rocks and minerals through more than 4 billion years of Earth history--changes that reveal much about our planet's co-evolving geosphere and biosphere. Mineral evolution and mineral ecology, which explore mineral occurrences through time and space, exploit large and growing data resources to detect previously hidden patterns in nature. We find dramatic changes in Earth's mineralogy as a consequence of physical, chemical, and most surprisingly biological processes. Powerful analytical and visualization methods are now allowing us to predict Earth's "missing" minerals--a prelude to the discovery of new ore deposits and other natural resources.

Thurs., Apr. 26, 7:00 p.m., “**Big-Data Geology: Visualizing Earth's co-evolving geosphere and biosphere**”. Berthoud Hall, Room 241, Colorado School of Mines, Golden. (Seating is limited; please pre-register at <http://bit.ly/2pmpGcS> .)

ABSTRACT: The distribution of minerals, rocks, and fossils on Earth mimics social networks, as commonly applied to such varied topics as Facebook interactions, the spread of disease, and terrorism networks. Applying network analysis to these natural objects provides a powerful visual approach to understanding the diversity and distribution of species, while revealing patterns that help predict "missing" deposits. These patterns provide new insights into the way planets evolve, especially the co-evolving geosphere and biosphere, while comparisons of networks for Earth materials with those of Mars and other worlds hint at why Earth is unique.

**Thurs., Apr. 26, 4:00 p.m.,** Van Tuyl lecture at Colorado School of Mines, **Algorithms for Hurricane Storm Surge Modeling: Current State and Future Outlook**, by Clint Dawson, Univ. of Texas at Austin. Berthoud Hall Room 241; all welcome.

**Sat. & Sun., Apr. 28-29, Colorado School of Mines Geology Museum Public Sale** of minerals, rocks, books, maps, journals, fossils, etc. Noon to 4 p.m. Saturday, April 28, and 9 a.m. to 4 p.m. Sunday, April 29. An advance preview sale (before 12 noon on Saturday) is for Friends of the CSM Museum only. “Most prices will drop throughout the event”. For information call 303-273-3815.

**Tues., May 1**, 10:30 a.m., USGS Rocky Mountain Science Seminar, Building 25 Lecture Hall, Denver Federal Center, “**Exploring sedimentary environments in Gale Crater with the Mars Science Laboratory Rover**”, by Lauren Edgar, USGS – Flagstaff.

**Thurs., May 3**, 7:00 p.m., First Thursday lecture series of the Friends of the Colorado School of Mines Geology Museum, **The Colorado-Wyoming State Line Kimberlite District**, by Philip Persson. All are welcome. Expected location: Ben H. Parker Student Center, Ballroom "E", Maple Street, Golden.

**Sat., May 5**, 11 a.m. – 2:45 p.m., **Colorado Mineral Society Silent Auction**, Holy Shepherd Lutheran Church, 920 Kipling St. (3 blocks north of West 6th Ave.) Lakewood. All welcome.

**Tues., May 8**, 6:00-8:00 p.m., “Golden Beer Talks”: Johanna Kovarik, U.S. Forest Service, National Cave and Karst Program Coordinator, “**A Life Underground: Studying and Stewarding the Magical Subterranean World of Caves**”. Windy Saddle Café, 1110 Washington Avenue, Golden. “Golden’s grassroots version of TED talks, Expand your mind with a beer in your hand”, see <http://goldenbeertalks.org/>. (Talk begins at about 6:35.)

**Tues., May 8**, 7:00 p.m., annual Emmons Lecture sponsored by the Colorado Scientific Society, **High drama at the Paleocene/Eocene boundary in the Bighorn Basin; implications for today**, by Will Clyde, University of New Hampshire. On the CSM campus, exact location TBA.

**Thurs., May 10**, 7:30 p.m., Friends of Mineralogy, Colorado Chapter, bimonthly meeting, at Lakeview Event Center, 7864 W. Jewell Ave.: “**The W-Sn-Be deposit of Xuebaoding, Sichuan Province, China: current research, past, and future of a world class mineral locality**”, by Markus Raschke, CU.

**Sat., May 12, Dinosaur Discovery Day**, featuring **Boy Scout Day** at Dinosaur Ridge, Morrison, CO. See [www.dinoridge.org](http://www.dinoridge.org) for full information.

**Mon., May 14**, 7:00 p.m., DREGS (Denver Region Exploration Geologists’ Society) annual Distinguished Lecturer, Dr. William A. (Bill) Rehrig, “**New Discoveries, New Questions – 60 Years in Exploration Geology**”. Berthoud Hall Room 241 at Colorado School of Mines; social hour with refreshments beginning at 6:00 p.m.

**Sun., May 20**, 12 noon to 4 p.m., **Friends of Mineralogy, Colorado Chapter, Silent Auction**, at Clements Community Center, 1580 Yarrow St., Lakewood. All are welcome.

**Fri.-Sat.-Sun., June 1-3, Pikes Peak Gem & Mineral Show**, sponsored by the Colorado Springs Mineralogical Society; at the Norris-Penrose Event Center [new location], 1045 Lower Gold Camp Road #3, Colorado Springs.

**Sun., June 17**, I was going to publicize the date of the once-yearly **Geology Train** on the Cumbres & Toltec Scenic Railroad, Antonito, CO, but I’ve learned that this train trip is booked full up. Make reservations early next year! See their website, <http://cumbrestoltec.com/>.

*For more lecture series during the year see:*

**Colorado Beer Talks** (2<sup>nd</sup> Tuesday, 6-8 p.m.), Windy Saddle Café, 1110 Washington Avenue, Golden, “Golden’s grassroots version of TED talks, Expand your mind with a beer in your hand”, <http://goldenbeertalks.org/>

**Colorado Café Scientifique in Denver**, monthly lectures on science topics held either at Blake Street Station or Brooklyn’s, Denver; open to the public, no charge other than refreshments you may choose to purchase; see <http://cafescolorado.org/>.

**Colorado Scientific Society** (3<sup>rd</sup> Thursday, 7 p.m.), see <http://coloscisoc.org/> . Meets at Shepherd of the Hills Church, 11500 W. 20th Ave., Lakewood CO, except when noted.

**CU Geological Science Colloquium** (Wednesdays, 4 p.m.) see <http://www.colorado.edu/geologicalsciences/colloquium>

**CSU Dept. of Geoscience Seminars** (Fridays, 4 p.m.), see <https://warnercnr.colostate.edu/geosciences/geosciences-seminar-series/>

**Van Tuyl Lecture Series, Colorado School of Mines**, (Thursdays, 4 p.m.): <https://geology.mines.edu/events-calendar/lectures/>

**Denver Mining Club** (Mondays, 11:30), see <http://www.denverminingclub.org/> .

**Denver Region Exploration Geologists Society** (DREGS; 1<sup>st</sup> Monday, 7 p.m.), <http://www.dregs.org/index.html>

**Florissant Scientific Society** (FSS); meets monthly in various Front Range locations for a lecture or field trip; meeting locations vary, normally on Sundays at noon; all interested persons are welcome to attend the meetings and trips; see <http://www.fss-co.org/> for details and schedules.

**Rocky Mountain Map Society** (RMMS; Denver Public Library, Gates Room, 3<sup>rd</sup> Tuesday, 5:30 p.m.), <http://rmmaps.org/>

**Western Interior Paleontology Society** (WIPS; Denver Museum of Nature & Science, 2<sup>nd</sup> Monday, 7 p.m.), <http://westernpaleo.org/> . Meetings are held either in the Ricketson Auditorium or the Planetarium at the Denver Museum of Nature & Science, unless otherwise noted

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**March - Where is this Rock?** We had two responses to this rock picture; both correctly recognized the spot. Beth Simmons wrote first, saying “Rock is Pikes Peak granite on highway 24 east of Florissant, past Divide”. The next morning, Bud Wobus (Williams College, MA) also came in with a similar reply: “Looks like Pikes Peak granite along US 24, maybe between Divide and Florissant?”. These two folks certainly know their Pikes Peak country geology & scenery! (One of the rocks here is “famous” for looking like a frog; and when I passed by here in January and took this picture someone (good grief, vandalism!) had even painted it green. It’s at the far left of the picture, but scarcely noticeable at this distance and viewing angle.)

**April - Where is this Rock?** For this month’s picture to identify, I’m going to make use of one that’s already in the newsletter. Please look back at page 2, and our “mystery rock” for April will be the conglomerate boulders on the hillside pictured with our two CGS geologists (one now retired, an emeritus). Where are these from? (It looks like all the other boulders in the background are less coarsely conglomeratic.) Send your answer to the editor, Pete Modreski, [pmodreski@usgs.gov](mailto:pmodreski@usgs.gov) . If you wait till Thursday evening, I’ll bet we are all likely to hear where this picture was taken!



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### **CSS Officers for 2018**

President..... Bob Raynolds, bob.raynolds@dmns.org  
President Elect..... Tom Casadevall, tcasadev@gmail.com  
Past President..... Marith Reheis, 303-277-1843, marith16@gmail.com  
Secretary..... Lisa Fisher, 303-215-0480, lisa.fisher@alumni.mines.edu  
Treasurer..... Don Sweetkind, 303-236-1828, dsweetkind@usgs.gov

### **Councilors**

2016-2018: Linda Barton Cronoble, lbarton1611@gmail.com, 720-338-1237  
2016-2018: Melissa Foster, melissa.ann.foster@gmail.com, 707-498-2484  
2017-2019: Jim Reed, jim@rockware.com  
2017-2019: Chris Morrison, chris-morrison@comcast.net  
2018-2020: Pete Modreski, pmodreski@aol.com, 720-205-2553  
2018-2020: Matt Rhoades, rhoadesgeo1@gmail.com

### **Committee Chairpersons**

Database Manager: Paul Morgan, 303-384-2648, morgan@mines.edu  
Field Trip Chair: Cal Ruleman, 303-236-7804, cruleman@usgs.gov  
GSA Meeting Co-chairs, Lisa Fisher & Libby Prueher  
History Chair: Beth Simmons, cloverknoll@comcast.net  
Hospitality Chair: Mary-Margaret Coates, geotechedit@gmail.com  
Membership Chair: Bob Raynolds, bob.raynolds@dmns.org  
Newsletter & Publicity: Pete Modreski, 303-202-4766, pmodreski@aol.com or pmodreski@usgs.gov  
Outreach: Joe Mestichelli, joseph.mestichelli@gmail.com  
Past Presidents' Best Paper Award, Marith Reheis, 303-277-1843, marith16@gmail.com  
State Science Fair: Chuck Weisenberg, 303-238-8806, cweisnberg@msn.com  
Student Programs Chair: Melissa Foster, melissa.ann.foster@gmail.com, 707-498-2484  
Student Research Grants Chair: Marith Reheis, 303-277-1843, marith16@gmail.com  
Webmaster: Chris Morrison, chris-morrison@comcast.net

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***CSS outreach to public non-science groups (repeating this from an earlier newsletter... please contact us if you would like to be on our list of volunteer speakers!)***

As a follow-up to our participation in the March for Science, we'd like to compile a list of members who would be willing to give an occasional lecture or presentation to non-science audiences. Groups such as neighborhood organizations, churches, social groups (Elks, Rotary, etc.) sometimes ask for speakers and it would be wonderful to have a list of knowledgeable people on whom to call. We'd like to post willing speakers and their topics on our website, so that visitors to the site could see what topics might be easily available. If you'd like to participate, please email your name and topic to Pete Modreski, pmodreski@usgs.gov , or Joe Mestichelli, joseph.mestichelli@gmail.com .

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